C2

--As battery chargers are typically designed without regard for efficiency, the heat generated via low-efficiency chargers can present a problem. For those applications, the chargers shown in **FIGS. 5A-5B** delivers **2.5 A** with efficiency as high as **96** percent. **IC1** is a buck-mode switching regulator that controls the external power switch **Q1** including the synchronous rectifier. **IC1** includes a charge pump for thus, generating the positive gate-drive voltage, however required by **Q1.** The battery-charging current having a voltage across the **25-M** resistor **(R3),** which is amplified by the op amp and defined, as positive-voltage feedback to **IC1.** This feedback empowers the chip to maintain the charging current at **2.5 A. While charging, these two circuits H3-H4 can provide current to a separate load,** up to a limit, thus set by current-sense transformer **T1,** and sense resistor **R1. T1,** thereby improves efficiency by lowering power dissipation in **R1.** Seeing that the transformer turns ratio **(1:70),** and routes, only **1/70** of the total battery-plus-**load current** via **R1,** generates a feed back voltage, which enables **IC1 to limit the overall current** to a level compatible therewith the external components. As shown in **FIG. 4A,** a block diagram of a **PE** model is clear, which was requested via the **PTO,** such, as to demonstrate its operability. The chargers **H3-H4** are connected to each other via the converters **V3-V4,** whereby two leads proceed from the charger **H3,** and is connected to the converter **V3.** While two leads proceed from the charger **H4,** both leads each of which, consequently, is connected with respect to the converter **V4.** Seeing that a lead proceeds from the adapter **A3,** and is connected using the charger jack **2,** a lead proceeds from the adapter **A4,** and is connected by way of the charger jack **3.**--

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Paragraph beginning at line **38** of page **3** has been amended as follows:

FIG. 4 is a perspective view via a bridge with bases on each side of a river, and has two self chargeable batteries;

FIG. 5 is a perspective view of a portion of the bridge adjacent the two battery chargers and their spiraled lights;

Paragraph beginning at line **8** of page **7** has been amended, as follows: Whereby submitted on **12/27/2001.**

As shown in **FIGS. 5A-5B,** the chargers **H3-H4** produces current by a controller **IC1,** a power switch **Q1** and a rectifier **Q2.**

A transformer **T1** saves power about **Q1's** current through **R1,** as current of an amplifier **IC2** flows internally from **Rs+** to RS- and through R2 to generate a feedback signal for IC1. As shown in **FIG. 4A,** a block diagram of a model is provided, which was requested via the **PTO,** such, as to demonstrate its operability. The chargers **H3-H4** are connected to each other via the converters **V3-V4,** whereby two leads proceed from the charger **H3,** and is connected to the converter **V3.** While two leads proceed from the charger **H4,** both leads each of which, consequently, is connected with respect to the converter **V4.**

Seeing that a lead proceeds from the adapter **A3,** and is connected using the charger jack **2,** a lead proceeds from the adapter **A4,** and is connected by way of the charger jack **3.**--

Paragraph beginning at line **8** of page **7** has been amended, as follows: Whereby submitted on **03/21/2002.**

--As shown via **FIGS. 5A-5B,** both chargers **H3-H4** produces current by a controller **IC1,** one power switch **Q1** and a synchronous rectifier. While charging, these **chargers H3-H4 can supply current to any separate load** up to a limit set by current-sense transformer **T1,** and sense resistor **R1. T1** improves efficiency by lowering power dissipation in **R1,** i.e., turning ratio (1:70) via the total battery-plus-**load current**